Montana Board of Oil and Gas Conservation
Environmental Assessment

Operator: Energy Corporation of America
Well Name/Number: ECA Foothills 1-H
Location: NW SW Section 14 T6S R17E
County: Carbon **, MT; Field (or Wildcat)** Wildcat

Air Quality

(possible concerns)
Long drilling time: No, 10 to 20 days drilling time.
Unusually deep drilling (high horsepower rig): No, medium depth drilling with a double derrick or a small triple derrick drilling rig, Will drill a single lateral horizontal hole to 5250' TD.
Possible H2S gas production: No, Cretaceous Greybull Sandstone Formation at total depth.
In/near Class I air quality area: Class I air quality area is the Custer National Forest, about 1.5 miles to the south from this location.
Air quality permit for flaring/venting (if productive): Yes, DEQ air quality permit required under rule 75-2-211.

Mitigation:
X Air quality permit (AQB review)
__ Gas plants/pipelines available for sour gas
__ Special equipment/procedures requirements
__ Other:_____
Comments: No special concerns – using a small triple or double derrick drilling rig, Well to be drilled to 5250' TD.

Water Quality

(possible concerns)
Salt/oil based mud: No, freshwater and freshwater mud system.
High water table: No high water table anticipated.
Surface drainage leads to live water: Yes, closest drainage is an unnamed ephemeral tributary to Morris Creek, about 1/4 of a mile to the northeast from this location.
Water well contamination: No, closest water well is about ½ of a mile to the southwest from this location. Depth of this freshwater well is 90'. Surface casing hole will be drilled with freshwater/freshwater drilling muds. Steel surface casing will be run and cemented to surface from 450'. Main hole will be drilled with freshwater and freshwater mud (2% KCL)to 5250' TD.
Porous/permeable soils: Yes, sandy gravelly soils.
Class I stream drainage: Morris Creek may be a Class I stream.

Mitigation:
X Lined reserve pit
X Adequate surface casing
__ Berms/dykes, re-routed drainage
__ Closed mud system
__ Off-site disposal of solids/liquids (in approved facility)
__ Other: _____

Comments: 450' of surface casing cemented to surface adequate to protect freshwater zones. Also, fresh water mud system to be used to drill surface hole. Production casing will be cemented. Reserve pit is proposed to be lined with a 20 mil synthetic liner.

Soils/Vegetation/Land Use

(possible concerns)
Steam crossings: None.
High erosion potential: No, no cut required up to 0.0' and no fill, up to 0.0', required.
Loss of soil productivity: No, location will be restored after drilling, if nonproductive. If productive unused portion of drillsite will be reclaimed.
Unusually large wellsite: No, a large wellsite, 365'X330' location size required.
Damage to improvements: Slight, surface use appears to be a grassland/forest.
Conflict with existing land use/values: Slight

Mitigation
__ Avoid improvements (topographic tolerance)
__ Exception location requested
X Stockpile topsoil
__ Stream Crossing Permit (other agency review)
X Reclaim unused part of wellsite if productive
__ Special construction methods to enhance reclamation
X Other If well is productive, soil erosion measures will be instituted on all cut and fill slopes.

Comments: Access will be over existing county road, East Rosebud Road and existing ranch/well access road. A short access road will be upgraded for heavy trucks driving into this location . Cuttings will be disposed of in the lined reserve pit. Drilling fluids will be trucked to a commercial SWD. Pit will be backfilled when dry. No special concerns.

Health Hazards/Noise

(possible concerns)
Proximity to public facilities/residences: Closest residences about 1.5 miles to the east northeast from this location. The town of Rosco, Montana is about 5.5 miles to the northeast from this location. About 1.5 miles to the south and 3.25 miles west of this wellsite location is the Custer National Forest boundary.
Possibility of H2S: None, Cretaceous Greybull Sandstone Formation at total depth.
Size of rig/length of drilling time: Double derrick or small triple derrick drilling rig/short amount of drilling time, estimate 10 to 20 days drilling time.

Mitigation:
X Proper BOP equipment
__ Topographic sound barriers
__ H2S contingency and/or evacuation plan
__ Special equipment/procedures requirements
__ Other:

Comments: Operational BOP and adequate surface casing should mitigate any problems. Formations to be drilled are characteristically non H2S bearing. Distance to residences sufficient not to create a noise problem. No concerns.

Wildlife/recreation

(possible concerns)
Proximity to sensitive wildlife areas (DFWP identified): None identified.
Proximity to recreation sites: Custer National Forest boundary is about 1.5 miles to the south and3.25 miles west of this wellsite location.
Creation of new access to wildlife habitat: No, all surface access is private land controlled. Existing access roads for previous oil wells.
Conflict with game range/refuge management: None. No game range/refuge nearby.
Threatened or endangered Species: Threatened or endangered species listed are the Canada Lynx, Black-footed Ferret and Grizzly Bear. Species of Concern are the Greater Sage Grouse, Sprague's Pipit and Wolverine for Carbon County on the Region 6 USFWS website. NH Tracker website lists the following as species of concern: Wolverine, Hoary Bat, Canada Lynx, Fringed Myostis and Grizzly Bear.

Mitigation:
__ Avoidance (topographic tolerance/exception)
__ Other agency review (DFWP, federal agencies, DSL)
__ Screening/fencing of pits, drillsite
__ Other: _____

Comments: No concerns. Private surface lands. Public access, recreation and hunting issues are controlled by the private land owner. Surface use is grassland/forest, with surrounding private ranches. This location has had previous drilling and oil production. Those wells were plugged and the locations restored. Garbage will be stored in caged trailers and removed on a regular schedule. Location and pit will be fenced.

Historical/Cultural/Paleontological

(possible concerns)
Proximity to known sites: None identified.

Mitigation
__ avoidance (topographic tolerance, location exception)
__ other agency review (SHPO, DSL, federal agencies)
__ Other:_____

Comments: No concerns. Drilling location is on private surface lands.

Social/Economic

(possible concerns)
__ Substantial effect on tax base
__ Create demand for new governmental services
__ Population increase or relocation
Comments: No concerns, wildcat exploratory well.

Remarks or Special Concerns for this site

Well is a wildcat single lateral horizontal exploratory oil well test to be drilled to 5250' TD into the Cretaceous Greybull Sandstone Formation.

Summary: Evaluation of Impacts and Cumulative effects

_No significant impacts or cumulative effects are expected from the drilling of this test well. No long term impacts expected, since the drilling of this well would take a maximum of 20 days and the completion and testing phase if productive another 30 days. Some short term impacts will occur, but can be mitigated in a short time.

I conclude that the approval of the subject Notice of Intent to Drill (does/**does not**) constitute a major action of state government significantly affecting the quality of the human environment, and (does/**does not**) require the preparation of an environmental impact statement.

Prepared by (BOGC): /s/Steven Sasaki
(title:) Chief Field Inspector
Date: July 8, 2011

Other Persons Contacted:

Montana Bureau of Mines and Geology, Groundwater Information Center
(Name and Agency)
Carbon County water wells.
(subject discussed)

July 6, 2011
(date)

US Fish and Wildlife, Region 6 website
(Name and Agency)
ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES MONTANA COUNTIES, Carbon County
(subject discussed)

July 6, 2011
(date)

Montana Natural Heritage Program Website (FWP)
(Name and Agency)
Heritage State Rank= S1, S2, S3, T6S R17E
(subject discussed)

July 6, 2011
(date)

If location was inspected before permit approval:
Inspection date: _____
Inspector: _____
Others present during inspection: _____